

WHAT IS CLAIMED IS:

1. A semiconductor device, comprising:  
a cylindrical substrate; and  
at least one semiconductor chip formed on the  
5 circumferential surface of said substrate, said  
semiconductor chip being bent along the surface of said  
substrate.

2. The semiconductor device according to claim 1,  
wherein a plurality of semiconductor chips are mounted  
10 to the outer circumferential surface of said substrate  
a predetermined distance apart from each other in the  
outer circumferential direction of said substrate.

3. The semiconductor device according to claim 1,  
wherein a plurality of semiconductor chips are mounted  
15 to the outer circumferential surface of said substrate  
a predetermined distance apart from each other in the  
longitudinal direction of said substrate.

4. The semiconductor device according to claim 1,  
wherein said semiconductor chip is arranged to cover  
20 the entire outer circumferential surface of said  
substrate.

5. The semiconductor device according to claim 1,  
wherein said semiconductor chip is arranged on the  
inner circumferential surface of said substrate.

25 6. The semiconductor device according to claim 1,  
wherein a plurality of semiconductor chips are arranged  
on the inner circumferential surface of said substrate

a predetermined distance apart from each other in the inner circumferential direction of the substrate.

5 7. The semiconductor device according to claim 1, wherein a plurality of semiconductor chips are arranged on the inner circumferential surface of said substrate a predetermined distance apart from each other in the longitudinal direction of the substrate.

10 8. The semiconductor device according to claim 1, wherein said semiconductor chip is arranged over the entire inner circumferential surface of said substrate.

9. The semiconductor device according to claim 1, wherein said semiconductor chips are arranged on both the outer circumferential surface and the inner circumferential surface of said substrate.

15 10. The semiconductor device according to claim 1, wherein the outer circumferential surface of said substrate is sealed with a resin layer.

20 11. The semiconductor device according to claim 1, wherein a reinforcing body is arranged inside said cylindrical substrate.

25 12. The semiconductor device according to claim 1, wherein a plurality of terminals for connection are arranged in one edge portion in the longitudinal direction of said cylindrical substrate, and said terminals are electrically connected to said semiconductor chip.

13. A semiconductor device, comprising:

a cylindrical substrate; and  
at least one stacked body formed on the  
circumferential surface of said substrate, said stacked  
body including a plurality of semiconductor chips  
5 stacked one upon the other and being bent along the  
surface of said substrate.

14. The semiconductor device according to  
claim 13, wherein a plurality of said stacked bodies  
are arranged a predetermined distance apart from each  
10 other in the outer circumferential direction of said  
substrate.

15. The semiconductor device according to  
claim 13, wherein a plurality of said stacked bodies  
are arranged a predetermined distance apart from each  
15 other in the longitudinal direction of said substrate.

16. The semiconductor device according to  
claim 13, wherein said stacked body is arranged to  
cover the entire outer circumferential surface of said  
substrate.

20 17. The semiconductor device according to  
claim 13, wherein said stacked body is arranged on  
the inner circumferential surface of said substrate.

18. The semiconductor device according to  
claim 13, wherein a plurality of stacked bodies are  
25 arranged on the inner circumferential surface of said  
substrate a predetermined distance apart from each  
other in the inner circumferential direction of the

substrate.

19. The semiconductor device according to claim 13, wherein a plurality of stacked bodies are arranged on the inner circumferential surface of said substrate a predetermined distance apart from each other in the longitudinal direction of the substrate.

20. The semiconductor device according to claim 13, wherein said stacked body is arranged over the entire inner circumferential surface of said substrate.

21. The semiconductor device according to claim 13, wherein said stacked bodies are arranged on both the outer circumferential surface and the inner circumferential surface of said substrate.

22. The semiconductor device according to claim 13, wherein the outer circumferential surface of said substrate is sealed with a resin layer.

23. The semiconductor device according to claim 13, wherein a plurality of terminals for connection are arranged in one edge portion in the longitudinal direction of said cylindrical substrate, and said terminals are electrically connected to said semiconductor chip.

24. A method of manufacturing a semiconductor device, comprising the steps of:

bending at least one semiconductor chip; and  
mounting the bent semiconductor chip on at least

one region of the surface of a cylindrical substrate.

25. The method of manufacturing a semiconductor device according to claim 24, wherein said semiconductor chip is held by a holder having a curved surface in said bending step.

26. A method of manufacturing a semiconductor device, comprising the steps of:

mounting at least one semiconductor chip on at least a region of the surface of a flexible substrate;  
and

bending said substrate into a cylindrical form.